

CLAIMS

WE CLAIM:

1. An isolated polynucleotide encoding a fibroblast growth factor polypeptide selected from the group consisting of:
 - (a) a polynucleotide comprising the nucleotide sequence of SEQ ID NO:4;
 - (b) a polynucleotide that encodes a variant of the polypeptide encoded by (a);
 - (c) a polynucleotide encoding a protein expressed by a polynucleotide having the sequence of SEQ ID NO:4; and
 - (d) a polynucleotide molecule that encodes a polypeptide that is at least 65% identical to the amino acid sequence of SEQ ID NO:4.
2. The polynucleotide of claim 1 having the nucleotide sequence of SEQ ID NO:4.
3. An expression vector comprising a polynucleotide according to claim 1 operably linked to a transcriptional promoter and a transcriptional terminator.
4. A host cell comprising the vector of claim 3 wherein said host cell is a mammalian cell, a bacterial cell, a yeast cell, or an insect cell.
5. An isolated polypeptide selected from the group consisting of:
 - (a) a polypeptide encoded by SEQ ID NO:4;
 - (b) a variant of the protein (a) or (b); and
 - (c) a polypeptide that is at least 65% identical to the amino acid sequence of SEQ ID NO:5.

6. A method of producing an FGF 98 polypeptide, said method comprising:

- (a) culturing a host cell according to claim 4, wherein said cell expresses an FGF 98 polypeptide encoded by said vector; and
- (b) recovering the FGF 98 polypeptide.

7. The method of claim 6 wherein said cell is an insect cell.

8. A pharmaceutical composition comprising the FGF 98 polypeptide of claim 5, in combination with a pharmaceutically acceptable carrier.

9. An antibody that binds to the polypeptide of claim 5 wherein said antibody is selected from the group consisting of a polyclonal antibody, a monoclonal antibody, and a single chain antibody.

10. The antibody of claim 9 wherein said antibody is raised against an immunogen comprising the amino acid sequence KRYPKGOP~~EL~~QKP~~FK~~ (SEQ ID NO:6).

11. A method for providing trophic support for cells in a patient in need thereof, the method comprising administering to the patient a composition selected from the group consisting of a polynucleotide encoding an FGF 98 polypeptide comprising SEQ ID NO: 5, and a polypeptide according to claim 5.

12. The method of claim 11 wherein said polynucleotide is administered by implanting cells which express said polynucleotide into the patient, wherein said cells express FGF 98 polypeptide in the patient.

13. The method of claim 12 wherein the implanted cells are encapsulated in a semipermeable membrane.

14. The method of claim 11 wherein the patient suffers from a condition selected from the group consisting of peripheral neuropathy, amyotrophic lateral sclerosis, Alzheimer's disease, Parkinson's disease, Huntington's disease, ischemic stroke, brain injury, acute spinal cord injury, nervous system tumors, multiple sclerosis, infection, dementia, epilepsy, and peripheral nerve injury.

15. The method of claim 14 wherein the condition is Parkinson's disease.

16. The method of claim 14 wherein the condition is Alzheimer's disease.

17. The method of claim 14 wherein the condition is stroke.

18. The method of claim 14 wherein the condition is brain injury.

19. The method of claim 14 wherein the condition is spinal cord injury.

20. A kit for detecting the presence of mRNA encoding FGF 98 in a sample from a patient, said kit comprising a polynucleotide having at least 20 contiguous nucleotides of the polynucleotide of claim 1, packaged in a container.

21. The kit according to claim 20 wherein the polynucleotide encodes SEQ ID NO:2 or SEQ ID NO:5.

22. A kit for detecting the presence of FGF 98 polypeptide in a sample from a patient, said kit comprising an antibody according to claim 9, packaged in a container.

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